

SEQUENCE LISTING

<110> Commonwealth Scientific and Industrial Research Organisation
Grains Research and Development Corporation

<120> Antifungal peptides

<130> 501692

<150> AU 2004900938

<151> 2004-02-24

<160> 62

<170> PatentIn version 3.3

<210> 1

<211> 64

<212> PRT

<213> Galleria mellonella

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1 5 10 15

Phe Ile Gly Ser Asn Glu Ala Ala Pro Lys Val Asn Val Asn Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ala Ile Gly Lys Gly Phe Lys Val Ile Ser Ala
35 40 45

Ala Ser Thr Ala His Asp Val Tyr Glu His Ile Lys Asn Arg Arg His
50 55 60

<210> 2

<211> 64

<212> PRT

<213> Galleria mellonella

<400> 2

Met Asn Phe Thr Gly Ile Phe Phe Met Ile Met Ala Ile Ile Ala Leu
1 5 10 15

Phe Ile Gly Ser Asn Glu Ala Ala Pro Lys Val Asn Val Asn Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ala Ile Gly Lys Gly Phe Lys Val Ile Ser Ala
35 40 45

Ala Ser Thr Ala His Asp Val Tyr Glu His Ile Lys Asn Arg Arg His
50 55 60

<210> 3
<211> 68
<212> PRT
<213> Galleria mellonella

<400> 3

Met Arg Leu Ser Ile Ile Leu Val Val Val Met Met Val Met Ala Met
1 5 10 15

Phe Val Ser Ser Gly Asp Ala Ala Pro Gly Lys Ile Pro Val Lys Ala
20 25 30

Ile Lys Lys Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn
35 40 45

Ile Ala Ser Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys Lys
50 55 60

Lys Lys Asn His
65

<210> 4
<211> 39
<212> PRT
<213> Galleria mellonella

<400> 4

Lys Val Asn Val Asn Ala Ile Lys Lys Gly Gly Lys Ala Ile Gly Lys
1 5 10 15

Gly Phe Lys Val Ile Ser Ala Ala Ser Thr Ala His Asp Val Tyr Glu
20 25 30

His Ile Lys Asn Arg Arg His
35

<210> 5
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<212> PRT
<213> Galleria mellonella

<400> 5

Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn Ile Ala Ser
1 5 10 15

Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys Lys Lys Asn
20 25 30

His

<210> 6
<211> 342
<212> DNA
<213> Galleria mellonella

<400> 6
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ggaatattct tcataattat ggcgatcatt gccctttta tagggtcaaa tgaagcggcg 120
cctaaagtca atgttaatgc cattaagaag ggaggaaagg ccataggaaa aggatttaaa 180
gtaatcagtg cggcgagtac agcgcatgac gtctatgaac acattaaaaa cagaaggcac 240
taataaaaacc aaaaataatt atttatttta taaggtaatt ttaagacata taatgtatgt 300
tgcaaattat taagtgaaat aaaatataaa atatttttg tt 342

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<211> 349
<212> DNA
<213> Galleria mellonella

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agcggcgccct aaagtcaatg ttaatgccat taagaaggga ggaaaggcca tagaaaaagg 180
atttaaagta atcagtgcgg cgagtagcgc gcatgacgtc tatgaacaca tttaaaaacag 240
aaggcactaa tagaacccaaa aataatcatt tattttataa ggttaatttta agacatataa 300
tgaatgttgc aaatttattaa gtggaataaa atataaaaata tttttgtt 349

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<211> 420
<212> DNA
<213> Galleria mellonella

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tgagattgtc cataatattg gtcgttgtga tcatggtgat ggctatgttt gtgagcagtg 120
gagatgcggc gcctggaaaa attcctgtga aagcgattaa aaaaggaggg caaattattg 180
gtaaagctc gcgtggaatc aatatacgat gtactgcaca tgacataatt agccagttca 240
aaccgaaaaaa gaagaaaaac cattgagtat ttaataaaaa atcggtcaat aatataattt 300
ataataataa taaattttac ttatattact ataataataat taatatttt aattgtgcca 360

tttttagttt ataaattata ttaagtatta attttataat taataaaaaa gcttaaatat 420

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<211> 192
<212> DNA
<213> Galleria mellonella

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aatgaagcgg cgccctaaagt caatgttaat gccattaaga agggaggaaa ggccatagga 120
aaaggattt aagtaatcag tgcggcgagt acagcgcattg acgtctatga acacattaaa 180
aacagaaggc ac 192

<210> 10
<211> 192
<212> DNA
<213> Galleria mellonella

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atgaattttt caggaatatt cttcatgatt atggcgatca ttgcctctt tatagggtca 60
aatgaagcgg cgccctaaagt caatgttaat gccattaaga agggaggaaa ggccatagga 120
aaaggattt aagtaatcag tgcggcgagt acagcgcattg acgtctatga acacattaaa 180
aacagaaggc ac 192

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<211> 204
<212> DNA
<213> Galleria mellonella

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ggtaaagctc tgctggat caatatacg agtactgcac atgacataat tagccagttc 180
aaaccgaaaa agaagaaaaa ccat 204

<210> 12
<211> 117
<212> DNA
<213> Galleria mellonella

<400> 12
aaagtcaatg ttaatgccat taagaaggaa ggaaaggcca tagaaaaagg atttaaagta 60
atcagtgcgg cgagtacagc gcatgacgatc tatgaacaca ttaaaaacag aaggcac 117

<210> 13
<211> 99
<212> DNA
<213> Galleria mellonella

<400> 13
ggaggggcaaa ttattggtaa agctctgcgt ggaatcaata tagcgagttac tgcacatgac 60
ataatttagcc agttcaaaacc gaaaaagaag aaaaaccat 99

<210> 14
<211> 67
<212> PRT
<213> Spodoptera litura

<400> 14

Met Lys Leu Thr Lys Val Phe Val Ile Leu Ile Val Val Val Ala Leu
1 5 10 15

Leu Val Pro Ser Glu Ala Ala Pro Gly Lys Ile Pro Val Lys Ala Ile
20 25 30

Lys Lys Ala Gly Ala Ala Ile Gly Lys Gly Leu Arg Ala Ile Asn Ile
35 40 45

Ala Ser Thr Ala His Asp Val Tyr Ser Phe Phe Lys Pro Lys His Lys
50 55 60

Lys Lys His
65

<210> 15
<211> 67
<212> PRT
<213> Manduca sexta

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Met Lys Leu Thr Ser Leu Phe Ile Phe Val Ile Val Ala Leu Ser Leu
1 5 10 15

Leu Phe Ser Ser Thr Asp Ala Ala Pro Gly Lys Ile Pro Val Lys Ala
20 25 30

Ile Lys Gln Ala Gly Lys Val Ile Gly Lys Gly Leu Arg Ala Ile Asn
35 40 45

Ile Ala Gly Thr Thr His Asp Val Val Ser Phe Phe Arg Pro Lys Lys
50 55 60

Lys Lys His
65

<210> 16
<211> 66
<212> PRT
<213> *Bombyx mori*

<400> 16

Met Asn Ile Leu Lys Phe Phe Phe Val Phe Ile Val Ala Met Ser Leu
1 5 10 15

Val Ser Cys Ser Thr Ala Ala Pro Ala Lys Ile Pro Ile Lys Ala Ile
20 25 30

Lys Thr Val Gly Lys Ala Val Gly Lys Gly Leu Arg Ala Ile Asn Ile
35 40 45

Ala Ser Thr Ala Asn Asp Val Phe Asn Phe Leu Lys Pro Lys Lys Arg
50 55 60

Lys His
65

<210> 17
<211> 41
<212> PRT
<213> *Heliothis virescens*

<400> 17

Gly Lys Ile Pro Ile Gly Ala Ile Lys Lys Ala Gly Lys Ala Ile Gly
1 5 10 15

Lys Gly Leu Arg Ala Val Asn Ile Ala Ser Thr Ala His Asp Val Tyr
20 25 30

Thr Phe Phe Lys Pro Lys Lys Arg His
35 40

<210> 18
<211> 66
<212> PRT
<213> *Bombyx mori*

<400> 18

Met Tyr Phe Leu Lys Tyr Phe Ile Val Val Leu Val Ala Leu Ser Leu
1 5 10 15

Met Ile Cys Ser Gly Gln Ala Asp Pro Lys Ile Pro Val Lys Ser Leu
20 25 30

Lys Lys Gly Gly Lys Val Ile Ala Lys Gly Phe Lys Val Leu Thr Ala
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Ser His Val Arg Asn Arg Gly Asn
50 55 60

Gln Gly
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<210> 19
<211> 32
<212> PRT
<213> Galleria mellonella

<400> 19

Lys Val Asn Val Asn Ala Ile Lys Lys Gly Gly Lys Ala Ile Gly Lys
1 5 10 15

Gly Phe Lys Val Ile Ser Ala Ala Ser Thr Ala His Asp Val Tyr Glu
20 25 30

<210> 20
<211> 28
<212> PRT
<213> Galleria mellonella

<400> 20

Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn Ile Ala Ser
1 5 10 15

Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys
20 25

<210> 21
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<220>
<221> misc_feature
<222> (6)..(6)
<223> N = inosine

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<220>
<221> misc_feature
<222> (12)..(12)
<223> N = inosine

<400> 21
aaygtnaayg cnathaaraa rgg
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23

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<210> 22
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer
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<222> (16)..(16)
<223> N = inosine
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<220>
<221> misc_feature
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<223> N = A, C, G or T
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<400> 22
ytcrtanacr gcrtgngcnt g
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21

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<211> 23
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<223> N = inosine
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<223> N = inosine
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<220>
<221> misc_feature
<222> (18)..(18)
<223> N = inosine
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<400> 23
ggnggnacara thathggnaa rgc

23

<210> 24
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<223> N = inosine

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<222> (5)..(5)
<223> N = inosine

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<222> (18)..(18)
<223> N = inosine

<220>
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<222> (21)..(21)
<223> N = A. C. G or T

<400> 24
tgnnsndatda trtcrtgngc ngt

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<210> 25
<211> 22
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<220>
<223> Oligonucleotide primer

<400> 25
gaggaaaggc catagaaaa gg

22

<210> 26
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 26
actcgccgca ctgattac

18

<210> 27
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 27
ggggggcaga tcattggg 18

<210> 28
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 28
ttatgtcatg ggccgtact 19

<210> 29
<211> 337
<212> DNA
<213> Galleria mellonella

<400> 29
ggtaaacatct ttatttagtta tcgtaaaata acagattgta gaaatgaagt ttacaggaat 60
attcttcata attatggcga tcattgcctt ctttataggg tcaaataaag cggcgccctaa 120
agtcaatgtt aatgccatta agaaggagg aaaggccata ggaaaaggat ttaaagtaat 180
cagtgcggcg agtacagcgc atgacgtcta tgaacacatt aaaaacagaa ggcactaata 240
aaaccaaaaa taattattta ttttataagg taattttaag acatataatg tatgttgcaa 300
attattaagt gaaataaaaat ataaaatatt ttttgaa 337

<210> 30
<211> 32
<212> PRT
<213> Galleria mellonella

<400> 30

Lys	Val	Pro	Ile	Gly	Ala	Ile	Lys	Lys	Gly	Gly	Lys	Ile	Ile	Lys	Lys
1					5			10						15	

Gly Leu Gly Val Ile Gly Ala Ala Gly Thr Ala His Glu Val Tyr Ser
20 25 30

<210> 31
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide sequence

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<222> (3)..(3)
<223> N = A, C, G or T

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<221> misc_feature
<222> (9)..(9)
<223> N = inosine

<220>
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<222> (12)..(12)
<223> N = inosine

<220>
<221> misc_feature
<222> (18)..(18)
<223> N = A, C, G or T

<400> 31
ccnaargtnc cnathggngc

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<210> 32
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
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<223> N = A, C, G or T

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<222> (12)..(12)
<223> N = inosine

<220>
<221> misc_feature
<222> (18)..(18)
<223> N = A, C, G or T

<400> 32
tanacttcrt gngcdgtncc

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<210> 33
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 33
aggcttgggt gtaattggtg 20

<210> 34
<211> 20
<212> DNA
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<220>
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<400> 34
gcagcaccaa ttacaccaaag 20

<210> 35
<211> 20
<212> DNA
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<220>
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<400> 35
taaaaagggt ctaggtgtgc 20

<210> 36
<211> 20
<212> DNA
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<220>
<223> Oligonucleotide Sequence

<400> 36
gcggcgccaa gcacacctag 20

<210> 37
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 37
cttcaatctt agtgaaaact tcgc 24

<210> 38
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 38
ggatagtaact tcataattat atac

24

<210> 39
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Sequence

<400> 39
gttgcaggac ttaatactta gtg

23

<210> 40
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Sequence

<400> 40
gagttttta ctaataagta tgtgg

25

<210> 41
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 41
ctcgagaaca atgaagttt caggaatatt cttca

35

<210> 42
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 42
tctagattag tgccttctgt ttttaatgtg ttcatagac

39

<210> 43
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 43
cgccagagga cccctaaac 19

<210> 44
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 44
atcgatgcc a gaccaagag a 21

<210> 45
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 45
tcgaaggaga tgccaccatg aagtttacag gaatattctt ca 42

<210> 46
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 46
ttagtgcctt ctgttttaa tgtgttcata gac 33

<210> 47
<211> 63
<212> PRT
<213> Galleria mellonella

<400> 47

Met Lys Leu Thr Gly Leu Phe Phe Met Ile Met Ala Met Leu Ala Leu
1 5 10 15

Phe Val Gly Ala Gly Gln Ala Asp Pro Lys Val Pro Ile Gly Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ile Ile Lys Lys Gly Leu Gly Val Ile Gly Ala
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Ser His Val Lys Asn Arg His
50 55 60

<210> 48

<211> 38

<212> PRT

<213> Galleria mellonella

<400> 48

Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys
1 5 10 15

Gly Leu Gly Val Ile Gly Ala Ala Gly Thr Ala His Glu Val Tyr Ser
20 25 30

His Val Lys Asn Arg His
35

<210> 49

<211> 375

<212> DNA

<213> Galleria mellonella

<400> 49

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ttctctttat caaccatgaa gctgaccggt ctattttca tgatcatggc gatgctcgcc 120

ctgttttttg gcgctggtca agccgaccct aaggtgccc ttggcgccat caagaagggt 180

ggcaaaatata ttaaaaaaagg tcttggtgta attggtgccg ctggtacagc gcatgaagta 240

tatagccacg tcaagaacag gcattagatt cttgaagaat atatagtata taattatgaa 300

gtactatcct tttgtatatg tgactaagtg cataatgtaa agtcaaatga aatatatatt 360

atttatacctc gtgcc 375

<210> 50

<211> 192

<212> DNA

<213> Galleria mellonella

<400> 50

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ggtaagccg accctaaggt gcccattggc gccatcaaga agggtggcaa aattattaaa 120

aaaggtcttg gtgtattgg tgccgctggt acagcgcatt aagtatataccacgtcaag 180

aacaggcatt ag 192

<210> 51
<211> 117
<212> DNA
<213> Galleria mellonella

<400> 51
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atggcgccg ctggcacgc gcatgaagta tatagccacg tcaagaacag gcattag 117

<210> 52
<211> 63
<212> PRT
<213> Galleria mellonella

<400> 52

Met Lys Leu Thr Gly Leu Phe Leu Met Ile Met Ala Val Leu Ala Leu
1 5 10 15

Phe Val Gly Ala Gly Gln Ala Asp Pro Lys Val Pro Ile Gly Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ile Ile Lys Lys Gly Leu Gly Val Leu Gly Ala
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Asn His Val Arg Asn Arg Gln
50 55 60

<210> 53
<211> 38
<212> PRT
<213> Galleria mellonella

<400> 53

Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys
1 5 10 15

Gly Leu Gly Val Leu Gly Ala Ala Gly Thr Ala His Glu Val Tyr Asn
20 25 30

His Val Arg Asn Arg Gln
35

<210> 54
<211> 462
<212> DNA
<213> Galleria mellonella

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accatgaagc tgaccggct atttctcatg atcatggcgg tgctcgcgct gtttgttggc 120
 gctggtcaag ccgaccctaa ggtgcccatt ggcgctatca agaaggcgg caaaattatt 180
 aaaaagggtc taggtgtgct tggcggcg ggcacagcgc acgaagtgt aaccacgtt 240
 aggaacaggc agtaacgtca tgcgtgattt ttgtacatac agtacttaca atacgattt 300
 tcttggctgt gatatatctt tagataaatt aatttataat accacatact tattagtaaa 360
 atactcaaattt atattgatta tagatacatt aataaattt aatttataca atatttgtt 420
 tttatgtaca atgcgaatag attctaccct ctgcctcgta cc 462

<210> 55
 <211> 192
 <212> DNA
 <213> Galleria mellonella

 <400> 55
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 ggtcaagccg accctaaggc gcccattggc gctatcaaga agggcggcaa aattataaa 120
 aagggtctag gtgtgcttgg cgccgcgggc acagcgcacg aagtgtacaa ccacgttagg 180
 aacaggcagt aa 192

<210> 56
 <211> 117
 <212> DNA
 <213> Galleria mellonella

 <400> 56
 aaggtgcccata ttggcgctat caagaaggc ggcaaaatata taaaaaggc tctagggttg 60
 cttggcgcccg cgggcacacgc gcacgaagtg tacaaccacg ttaggaacag gcagtaa 117

<210> 57
 <211> 67
 <212> PRT
 <213> Spodoptera exigua

 <400> 57

Met Lys Leu Thr Lys Val Phe Val Ile Val Ile Val Val Val Ala Leu
 1 5 10 15

Leu Val Pro Ser Glu Ala Ala Pro Gly Lys Ile Pro Val Lys Ala Ile
 20 25 30

Lys Lys Ala Gly Thr Ala Ile Gly Lys Gly Leu Arg Ala Ile Asn Ile
 35 40 45

Ala Ser Thr Ala His Asp Val Tyr Ser Phe Phe Lys Pro Lys His Lys
50 55 60

Lys Lys His
65

<210> 58
<211> 54
<212> PRT
<213> *Hyblaea pueria*

<400> 58

Ala Met Ser Leu Val Ser Cys Ser Thr Ala Ala Pro Ala Lys Ile Pro
1 5 10 15

Ile Lys Ala Ile Lys Thr Val Gly Lys Ala Val Gly Lys Gly Leu Arg
20 25 30

Ala Ile Asn Ile Ala Ser Thr Ala Asn Asp Val Phe Asn Phe Leu Lys
35 40 45

Pro Lys Lys Arg Lys His
50

<210> 59
<211> 41
<212> PRT
<213> *Caligo illioneus*

<400> 59

Gly Lys Ile Pro Ile Asn Ala Ile Arg Lys Gly Ala Lys Ala Val Gly
1 5 10 15

His Gly Leu Arg Ala Leu Asn Ile Ala Ser Thr Ala His Asp Ile Ala
20 25 30

Ser Ala Phe His Arg Lys Arg Lys His
35 40

<210> 60
<211> 37
<212> PRT
<213> *Caligo illioneus*

<400> 60

Arg Lys Ile Pro Val Glu Ala Ile Lys Lys Gly Ala Ser Arg Ala Trp
1 5 10 15

Arg Ala Leu Asp Leu Ala Ser Thr Ala Tyr Asp Ile Ala Ser Ile Phe
20 25 30

Asn Arg Lys Arg Glu.
35

<210> 61
<211> 40
<212> PRT
<213> Caligo illioneus

<400> 61

Gly Lys Ile Pro Val Glu Ala Leu Lys Lys Gly Ala Lys Val Ala Gly
1 5 10 15

Arg Ala Trp Arg Ala Leu Asp Leu Ala Ser Thr Ala Tyr Asp Ile Ala
20 25 30

His Leu Phe Asp Arg Lys Arg Asn
35 40

<210> 62
<211> 43
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus sequence for Galleria peptides

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa = GLY, PRO, ALA or ABSENT, or more preferably GLY or ABSENT

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa = ILE, VAL, ALA, LEU, MET or PHE, or more preferably ILE or
VAL

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa = PRO, GLY, ASN, GLN or HIS, or more preferably PRO or ASN

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<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa = ILE, VAL, ALA, LEU, MET or PHE, or more preferably ILE or
VAL

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa = LYS, ARG, GLY, PRO, ALA, ASN, GLN or HIS, or more
preferably LYS, GLY or ASN

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<220>
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<222> (13)..(13)
<223> Xaa = GLN, ASN, HIS, LYS or ARG, or more preferably GLN or LYS

<220>
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<222> (14)..(14)
<223> Xaa = ILE, VAL, ALA, LEU or GLY, or more preferably ILE or ALA

<220>
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Xaa
35 40